Municipal Electric Authority of Georgia

MEAG Smart Grid Distribution Automation Project

Abstract

The Municipal Electric Authority of Georgia (MEAG) project involves the implementation of information technology infrastructure to manage new automated or remotely controlled equipment deployed in the electric distribution system. This project aims to reduce operating and maintenance costs, while improving the reliability of the transmission and distribution assets owned and operated by MEAG. The communication systems and automation equipment being deployed within MEAG's distribution substations reduce the frequency of system failures and associated maintenance activities. Furthermore, the new information technology infrastructure established as a result of this project supports future deployments of distribution automation and advanced metering infrastructure (AMI) by municipal utilities served by MEAG. This project also implements remotely controlled motor operators to operate transmission switches, which reduces operations cost and improves outage response time.

At-A-Glance

Recipient: Municipal Electric Authority of Georgia (MEAG)

State: Georgia

NERC Region: SERC Reliability Corporation

Total Budget: $24,534,700

Federal Share: $12,267,350

Project Type: Electric Distribution Systems

Equipment

- Substation Automation Equipment for 128 out of 171 Distribution Substations
  - SCADA Communications Network
  - Automated Regulators
  - Smart Meters*
  - Smart Relays
- Remote Controlled Transmission Switches

*Substation smart meters installed at substations to meter local distribution companies

Targeted Benefits

- Reduced Operating and Maintenance Costs
- Increased Electric Service Reliability

Smart Grid Features

Communication infrastructure includes implementation of distributed network protocol-based devices, including supervisory control and data acquisition (SCADA) network terminal units, routers (with built-in firewall), microprocessor-based relay units, regulator control panel units, and substation meters. This infrastructure is designed to support future distribution automation deployments for member utilities.

Substation automation systems include advanced automation and communication equipment to improve the performance of MEAG's distribution substations. MEAG is deploying substation smart meters, microprocessor-based smart relays, and remotely controlled switches at 128 high-priority substations. This improves the reliability and reduces the frequency of maintenance activities. Infrastructure installed through this project supports future implementation of smart grid technologies, tools, and techniques including distribution automation and AMI for the municipal utilities served by MEAG through these automated substations.

Advanced transmission systems include increases in uplink capabilities using Inter Control Center Communications protocol to the transmission operator for the Georgia Integrated Transmission System. The transmission operator can visualize the status of the distribution facilities connected to the transmission system. Installation of remotely controlled, motor-operated switches enables faster restoration of transmission supply to distribution substations.

Municipal Electric Authority of Georgia *(continued)*

Timeline

Key Milestones	Target Dates
Substation engineering begins	Q2 2010
Substation automation completed	Q2 2013

Contact Information

Doug Lego
Assistant to VP Transmission
Municipal Electric Authority of Georgia
dlego@meagpower.org